

CHAPTER XIII: LOUISVILLE DISTRICT MILITARY MISSION

From its inception in 1775 to about 1824, the primary mission of the Corps of Engineers was providing military support to the United States Army, chiefly by reconnaissance and map production, fortification construction, and combat engineering. The civil works mission, which included improvement of inland rivers, was assigned to the Army Engineers in 1824 because of the integral relationship between national prosperity and national defense capability, the need for improved transportation facilities for both commercial and military purposes, the need of the Army Engineers for construction experience during peacetime, and the fact that the United States Military Academy was the only school of engineering in the United States until 1825. Army Engineers operating in the Ohio Valley frequently performed both civil and military missions until the Civil War, when civil works projects were largely suspended and the Engineer officers and their staffs planned and constructed military installations throughout the Ohio Valley and elsewhere. From Appomattox to Pearl Harbor, 1865-1941, however, military construction in the Ohio Valley was performed chiefly by the Army Quartermaster and Ordnance Departments.

At the onset of the Second World War, in a major reorganization of the Army, the Construction Division of Quartermaster Corps was amalgamated with the Corps of Engineers organization, and each Engineer District was assigned responsibility for meeting the goals of an urgent, high-priority military mission, involving construction of airfields, troop cantonments, hospitals, and munitions and ordnance plants and depots for the Army and Army Air Force. This mission was suc-

cessfully completed in 1945 and civil works activities resumed their prewar importance in the operations of the Louisville and other Engineer Districts.

But the Louisville District had a continuing military mission throughout the Cold War, with a major construction effort during the Korean "police action," and for most of the quarter-century after 1945 the District performed the military construction and real estate program for the entire Ohio River Division. In 1970, as an economy measure, the District military mission was transferred to other Engineer Districts, but from 1940 to 1970 the District had completed a number of military support projects which had an immeasurable but significant influence on the success of American armies in the field.

Military Mission, 1866-1940

The fortifications constructed by the Corps of Engineers around Louisville, Cincinnati, and other cities and military depots in the Ohio Valley during the Civil War were sold or abandoned shortly after the end of hostilities, and by 1917, when another military construction program began in the Ohio Valley, the crumbling remains of the old fortifications had become tourist attractions — grim reminders of the bloody price paid for national unity. Of the Civil War installations, only Jeffersonville Quartermaster Depot continued operation in the Ohio Valley. From it supplies were dispatched to troops engaged in the Indian Wars on the frontier, the war with Spain in 1898, and the First World War. But the only project performed by the Corps of Engineers at the Depot was the construction of a levee to protect it from inundation and facilitate continued supply shipment during flood periods.¹

From 1865 to 1940, military construction in the interior of the United States was performed chiefly by the Quartermaster and Ordnance Departments of the Army; the military mission of the Corps of Engineers during the same period was confined mostly to seacoast fortifications and engineering in combat theaters. In national emergencies, such as those of 1898 and 1917-1918, Engineer officers and civilian personnel of the Louisville Engineer District received overseas assignments in connection with the Corps military mission, but the District civil works organization was not mobilized to any appreciable extent.

Military construction in the Ohio Valley during the First World War was completed largely by the Cantonment Division of the Quartermaster Corps. General George Goethals, who had served in the Ohio Valley as assistant to Colonel Merrill in the 1880s and who had directed completion of the Panama Canal, was Acting Quartermaster General in 1917. It was his opinion that military construction activities should be performed by the Corps of Engineers, and not the Quartermaster Corps. But this reorganization was not implemented at that time; instead, the Cantonment Division, Quartermaster Corps, was renamed the Construction Division and given independent status, reporting directly to the General Staff and the Secretary of War. After the Armistice in 1918, the Construction Division again became part of the Quartermaster Department.²

The Cantonment, or Construction, Division completed a large construction program in the continental United States during World War I, and two of its projects in the Ohio Valley formed the nucleus of the installations at Fort Knox, near Louisville, and Wright-Patterson Air Force Base, near Dayton, Ohio.

Camp (later Fort) Knox was selected for construction as a six-brigade artillery camp in 1918 because the site, thirty miles south of Louisville, was near the population center of the United States, was considered "healthful," and had a varied terrain suitable for artillery practice and large-scale maneuvers. The Quartermaster Department purchased 36,330 acres in Hardin, Meade, and Bullitt counties in 1918, and commenced construction on July 26, 1918. Original plans called for the erection of housing for 60,000 men and 27,000 animals; that is, facilities for six brigades of field artillery, two labor battalions, a veterinary hospital, a remount depot, two balloon companies, an aerial squadron, an artillery park, a training school for 10,000 officers, an ordnance depot, a supply depot, and a base hospital.³

Major W. H. Radcliffe, Constructing Quartermaster (equivalent to Area Engineer, or Resident Engineer), supervised the project and arranged for work to proceed seven days a week under contract. By the date of the Armistice, November 11, 1918, twelve thousand troops — of Artillery, the 29th Aero Squadron, and 31st Balloon Company — were stationed at Camp Knox. Contract work was suspended on December 21, 1918, and the Quartermaster Corps performed continuing work at the Camp with hired labor.⁴

Fort Knox was used intermittently after 1918 as a training center for the Fifth Corps Area and National Guard units, and in 1931 was selected by Major General Daniel Voorhis for training mechanized forces — thus, it became the "birthplace" of Armor. The Fort became better known to the public, however, as the site of the gold depository of the United States. In the months just prior to Pearl Harbor, a major expansion program began at Fort

Knox under the supervision of the Construction Division, Quartermaster Corps, and later the Louisville Engineer District. The number of structures at the post grew from 864 in 1939 to over 3,000 by 1942 to serve an enormous troop concentration.⁵

Construction at Wright-Patterson Air Force Base also began during the First World War. Colonel Edward Deeds, who was connected with both the Miami Conservancy District and the aircraft-production program of the Army, contacted Arthur E. Morgan, Chief Engineer of Miami Conservancy District, at Dayton and requested that he search for a site for a flying field. Morgan traveled the area in company with Orville Wright, one of the brothers who invented the airplane, and Wright chose the site of the first air flight after Kittyhawk for what was to become Wright-Patterson Field. The site was the property of the Miami Conservancy District, and citizens of Dayton arranged donation of the land for the airfield to the United States.⁶

The fledgling Army Air Corps, whose first commanding general was Mason M. Patrick, a former Corps officer who has served under Colonel Merrill in the Ohio Valley at one time, accepted the site, and construction began on May 27, 1917. This airfield eventually became known as Patterson Field. Land for Wright Field, adjacent to Patterson Field, was also donated by the Dayton Air Service Committee. Personnel of the Corps of Engineers made the original topographic survey of these fields and established bench marks, and construction was performed by the Quartermaster Department. These fields, as Wright-Patterson Air Force Base, became one of the major aeronautic research centers in the nation, and the Cincinnati and Louisville Engineer Districts built many facilities at the base, including complex

structures for aerospace testing purposes.⁷

Though Army Engineer troops were the first to enter combat and suffer casualties in France in 1917, and the Corps of Engineers was responsible for an enormous overseas military construction program, the civil works organization of the Corps and the Louisville Engineer District were not mobilized for a military mission during the World War I emergency. Events of the war did, however, have considerable influence on civil works activities in the District and waterborne commerce on the Ohio River.

Because the services of Engineers were required for the military mission, officers were too few in number to staff the civil works organization, and in 1918 and 1919 the Louisville District Engineer was Principal Assistant Engineer William H. McAlpine (the only civilian to serve as Louisville District Engineer). And because of the difficulty of employing labor during the war and the subsequent influenza epidemic civil works construction in the Louisville District, as elsewhere in the United States, was performed at reduced pace. Guards were also stationed at navigation structures and the lock force was armed to prevent sabotage during the war, but there is no evidence that any attempts were made in the Louisville District to damage the projects.⁸

Serious transportation problems developed during the course of the conflict — peacetime shipments continued and accelerated and to them were added troops moving to camps and ports of embarkation and military supply shipments. All of these wartime shipments went via highway or railway in 1917, resulting in a massive transportation snarl. At the same time, the inland waterways, whose commerce could have been doubled or tripled quite easily, were not utilized — 1917

was the nadir of commerce on the Ohio River. In 1917, Ohio Valley shipyards began a major construction effort to meet the demands for increased transportation facilities, and the Louisville District participated in efforts to increase use of the waterways.

On May 25, 1917, the Louisville District was ordered to locate any idle floating equipment in the Lower Ohio Valley which might be placed in service "to establish a system of freight movement upon the Ohio to relieve the congestion upon the railroads." District Engineer William H. McAlpine reported that because of a railroad car shortage, rail traffic in the Louisville District was nearly at a standstill. One shipper had hired the steamboat *Inco*, loaded it with freight destined for New Orleans, and sent photographs of the trip to various railroad presidents — shortly afterwards he got the railroad cars he wanted. McAlpine could find little idle floating equipment, and he recommended that a government-controlled or owned barge line, similar to that established on the Mississippi River during the war, be placed into operation between Louisville and Cairo to relieve railroad traffic congestion. Though his recommendation was not acted upon, it did indicate the seriousness of the situation.⁹

Though the Ohio River Canalization Project was only partially completed, in 1917 a technique was devised to increase the effectiveness of the completed sections. Traffic was gathered in slackwater pools above unimproved river sections, and at a signal sections of the movable dams were dropped to create a small rise, or wave, on which the vessels rode down river to the next slackwater pool. This technique and the congestion of alternate means of transportation contributed to the reversal of the downward trend of com-

merce on the Ohio. Commerce on the river in 1918 was fifty percent greater than that of 1917, and in 1919 the total ton-mileage on the Ohio, indicating long-haul traffic, climbed to six hundred million ton-miles, about double that of 1918. In 1920 ton-mileage on the Ohio topped the billion-mile mark.¹⁰

General Lansing H. Beach, the Central Division (ORD) Engineer who had introduced the "artificial wave" technique on the Ohio, became Chief of Engineers in 1920, and he asserted that one of the most important lessons of the war was the need for improved waterways:

The interest of the Federal Government in the construction of comprehensive road and interior waterway systems throughout the United States . . . is far greater as a measure of defense than for commercial reasons, great as is the necessity of these for the latter purposes. This statement is made advisedly, for the preservation of the life of the Nation is the central government's greatest responsibility in peace and in war, and hence every facility should be developed to allow a successful defense to be made. It fortunately happens that roads and waterways constructed solely to meet the needs of commerce are generally well adapted to the needs of defense, and the immediate interests of the people can be counted on to secure support for this great preparedness measure.¹¹

The lesson was not lost upon Congress, which in the Transportation Act of 1920 pronounced that it would be the policy of the United States to "promote, encourage and develop water transportation service and facilities . . . and to foster and preserve in full vigor both rail and water transportation." Congress directed the Corps of Engineers to conduct investigations of floating plant design, water terminal facilities, and water and rail interchange connection and develop plans for enhancing use of the nation's waterways; it also provided substantial appropriations for completing the Ohio River Canalization Project. By

1941 the Ohio River and other inland waterways were in a much improved condition for service in a national emergency.¹²

Early Military Construction, 1940-1941

When the thud of bombs at Pearl Harbor brought the United States into the Second World War, the Corps of Engineers was in the throes of consolidation, for on December 1, 1941, the President had directed merger of the Construction Division, Quartermaster Corps, into the Corps of Engineers organization within fifteen days. The Louisville Engineer District, engaged at the onset of war in the initial phase of flood control project construction, suddenly became responsible for a huge military mission, and received what was doubtless the greatest challenge of its history, for rapid mobilization of national resources was imperative. The District was, however, not completely unprepared for the assignment.¹³

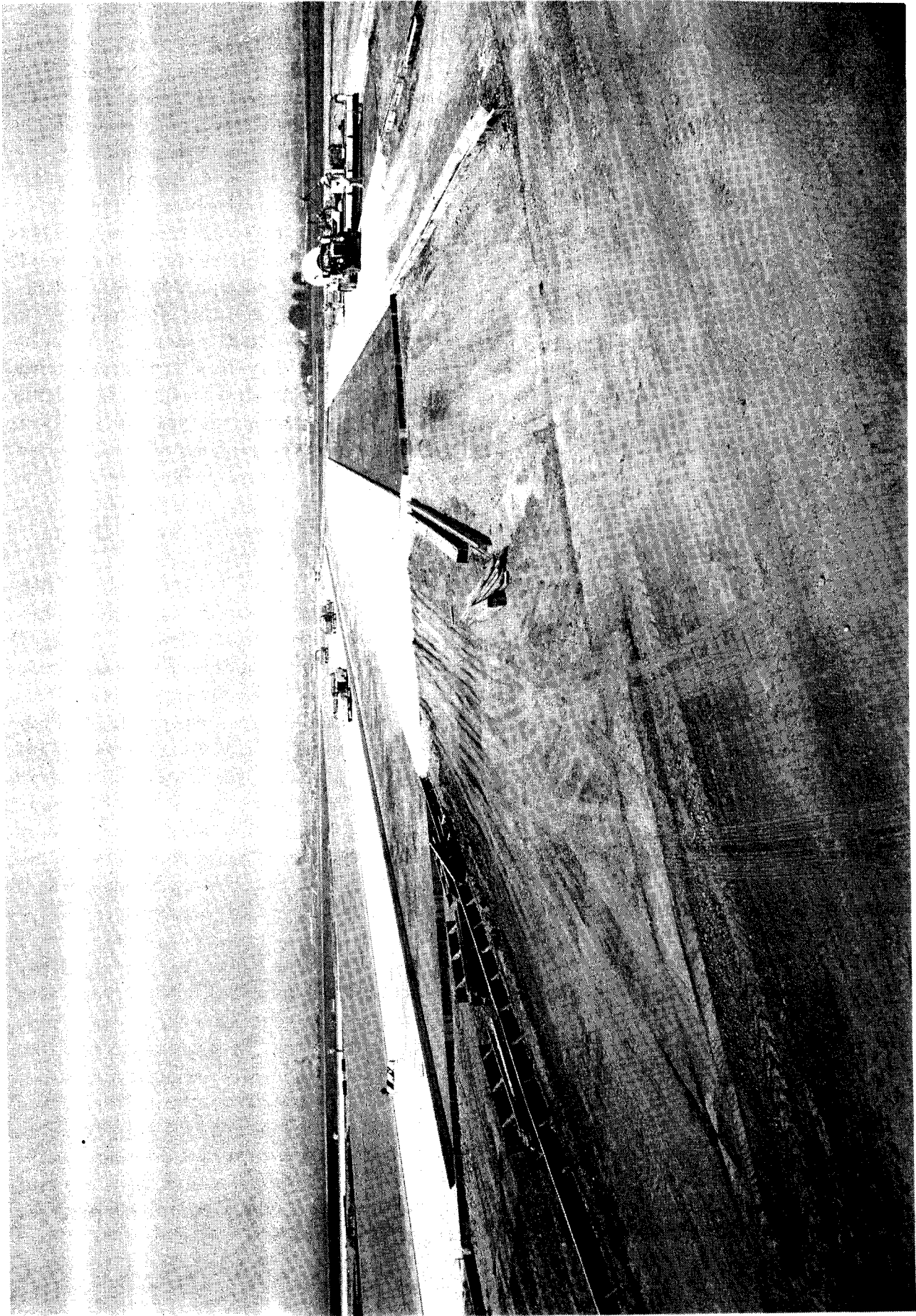
The Corps had been assigned portions of the Airport Construction Program for the Civil Aeronautics Administration (C.A.A.) on October 15, 1940, and on November 20, 1940, construction of installations for the Army Air Force to provide airfields and training schools for 30,000 pilots was assigned to the Corps.¹⁴

The airfield construction program for the C. A. A. in the Louisville District involved projects of a quasi-military character at Kokomo, Indiana, Bowling Green and Paducah, Kentucky, and Standiford Field at Louisville. The Standiford Field (originally Municipal Airport No. 2) project was built on property owned by Jefferson County outside Louisville. The county had made the site available to Vultee Aircraft Corporation and Curtiss-Wright Corporation, which had factories

adjacent to the site and were commencing the production of military aircraft. The project, commenced on June 16, 1941, consisted of construction of runways, fencing, lighting, and drainage systems.¹⁵

The typical C. A. A. project in the Louisville District involved the construction of 150-foot wide runways, each 3,900 feet long, with a limestone base surfaced with asphalt, and pertinent auxiliary structures. The total amount of pavement at one field was 140,000 square yards — by the use of locally available materials, costs for both materials and labor were held to \$1.70 per square yard. Several of these fields became the nucleus of the commercial airfields serving nearby cities after the war. Standiford Field became the terminal for airlines serving the Louisville metropolitan area.¹⁶

The original airfield construction undertaken for the Army Air Force in the Louisville District included Godman Field at Fort Knox and Bowman Field at Louisville. Godman Field was commenced by the Quartermaster Corps with W. P. A. labor on January 23, 1940, and the project was taken over by the Louisville District in 1941. Five surfaced runways of 150-foot width and up to 5,400-foot length were built for the use of an observation squadron attached to the Armored force at Fort Knox. Bowman Field, originally a Louisville commercial airport, was taken over by the Army Air Force in August, 1940, and construction for military purposes was commenced by the Quartermaster Corps and continued by the Louisville District. Additional runways were built and about 120 buildings erected to permit use of the Field as a replacement and supply depot for the Air Force, as an air crew and combat glider training base, and, near the end of the war, as a convalescent hospital for wounded fliers.¹⁷



Construction of Standiford Field at Louisville

*Military Construction Administration,
1941-1945*

The military construction office in the Louisville District was part of the District Navigation Branch until early 1942, when a separate Military Branch was established to supervise the numerous large projects transferred to the District from the Construction Division, Quartermaster Corps, on December 15, 1941. The transfer was accomplished with minimum disruption — the general procedure was to appoint the former Constructing Quartermasters at projects as Area Engineers, who reported to the District Engineer, instead of the Quartermaster Department.¹⁸

During initial phases of the emergency, much construction was accomplished in accordance with standardized plans, but design for outside utilities was a unique problem at each project. At each major work-site a self-sustaining organization was established to handle accounting; they reported to the Accounts and Audits Unit at the District Office which produced consolidated District Fiscal reports. The magnitude of mission expansion was almost overwhelming, for during 1942, the peak year for military construction in the Louisville District, daily expenditures often exceeded more than a million dollars, which was almost as much as the District had expended in an entire year on civil works prior to the commencement of flood control projects. Cost reports for about thirty civil projects and fifty military projects were prepared on a monthly basis by the Accounts and Audits Unit (which became part of the District Fiscal Branch in 1944).¹⁹

The immense scope of the military mission required substantial increases in personnel, and office space requirements forced various sections of the District Office staff to relocate in buildings scattered

throughout Louisville. Personnel turnover was also rapid. At least 569 former Louisville District employees were serving in the Armed Forces by 1945, and five — Clements H. Diepenbrock, Daniel F. Hilliard, Earl J. Murphy, and Allen C. Schanz — died in that service. The military mission was so urgent that civil works were almost suspended; of the 377 staff members at the District Office, 367 were engaged in some capacity in performing a portion of the military mission. The only significant civil works projects under construction in Louisville District in 1942 were flood protection projects at Paducah, Jeffersonville, and Evansville.²⁰

The principal Corps mission in 1942 was in support of national efforts to get troops trained, equipped, armed, and supplied for embarkation to North Africa, Europe, and the Pacific; thus, 1942 was the peak year for military construction in the continental United States and in the Louisville Engineer District. During that year the military mission conformed closely to the District civil works boundary, but in late 1942 a reorganization was undertaken to make Engineer Division military construction boundaries conform to Service Command boundaries.²¹

The Ohio River Division, which included the Louisville District, became, in effect, the construction agency for the Fifth Service Command, and Division offices were transferred from Cincinnati to Columbus, Ohio, also the headquarters of the Fifth Service Command. Service Command boundaries tended to follow state boundaries, and the reorganization resulted in an enlargement of the area of the Louisville District for military construction. The District took over military construction in Indiana, becoming responsible for Baer Field and Camp Thomas Scott at Fort Wayne, and New

Haven, Kingsbury, and Wabash River Ordnance plants, formerly in the Chicago and Detroit Engineer Districts. Chanute Field and George Field in Illinois were transferred from Louisville to the Chicago Engineer District.²²

Military projects were generally initiated by a construction directive from the Office of the Chief of Engineers, specifying the work to be accomplished, the installation where the work was to be done, and the amount of funds available. Projects completed by the Louisville District during the war consisted chiefly of troop cantonment structures, munitions and ordnance plants, supply depots, airfields, hospitals, modification centers, and the remodeling of buildings, such as the Gibbs-Inman Building in Louisville which became the District Office building in the postwar era.²³

Airfield Projects

In addition to the C. A. A. and U. S. A. A. F. projects commenced in 1940 and 1941, other airfields were constructed and expanded by the District during the course of the war. Two schools for bomber crews were built near Seymour, Indiana, and Lawrenceburg, Illinois, in 1942. The Seymour Air Force Advanced Twin Engine School project consisted of construction of technical and operational buildings and military housing for a school of 380 officers, 475 cadets, 13 nurses, and 2,324 enlisted men, and Freeman Army Airfield — four runways and parking aprons — and five auxiliary landing fields for training purposes. Construction began on June 5, 1942, and was completed for use at a cost of fifteen million dollars within a year. The Twin Engine School at Lawrenceville consisted of similar facilities, including George Army Airfield and three auxiliary fields. It also was completed in late

1942, at costs of about ten million dollars.²⁴

Troop Cantonment Projects

In late 1941 the Louisville District received from the Quartermaster Department several large construction projects at Fort Knox and Camp Breckenridge, Kentucky, and Camp Atterbury and Fort Benjamin Harrison, Indiana. It continued construction of various facilities at each of these cantonments throughout the war. Several projects were also completed at Camp Campbell, Kentucky, and Camp Thomas Scott at Fort Wayne which were added to the Louisville District mission as result of the reorganization in late 1942. The first construction at each of these camps was the rapid erection of mobilization-type, two-story, frame barracks for troop housing, and related facilities — utility lines, roads, kitchens and mess halls, firehouses, fencing, warehouses, and motor-vehicle storage space.

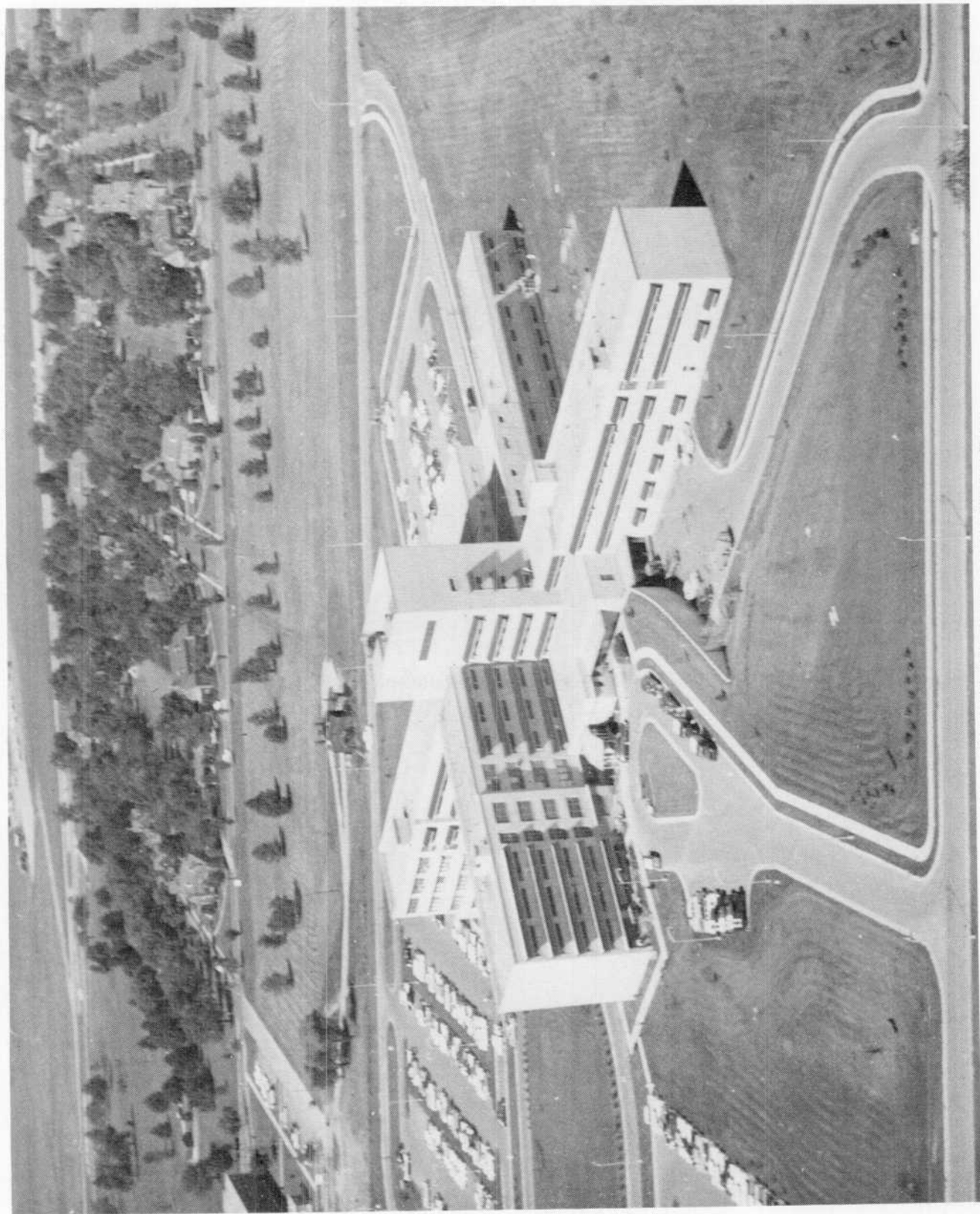
Fort Knox was already occupied by Army Armor, but the number of structures on the base was tripled between 1939 and the end of 1942. Camp Atterbury, near Indianapolis, and Camp Breckenridge, near Morganfield, Kentucky, were designed as Motorized Triangular Division cantonments. The Camp Atterbury project, for example, provided originally for the construction of 520 mobilization-type buildings and a semi-permanent hospital on about 40,000 acres of land thirty-miles south of Indianapolis to house a Triangular Division of 35,816 enlisted men and 1,642 officers. Design was accomplished by a contracting firm, construction by five contractors, and work was supervised by Area Engineer Major Rees W. Willard with a 53 member staff. The office of the Inspector General reported in April, 1942,



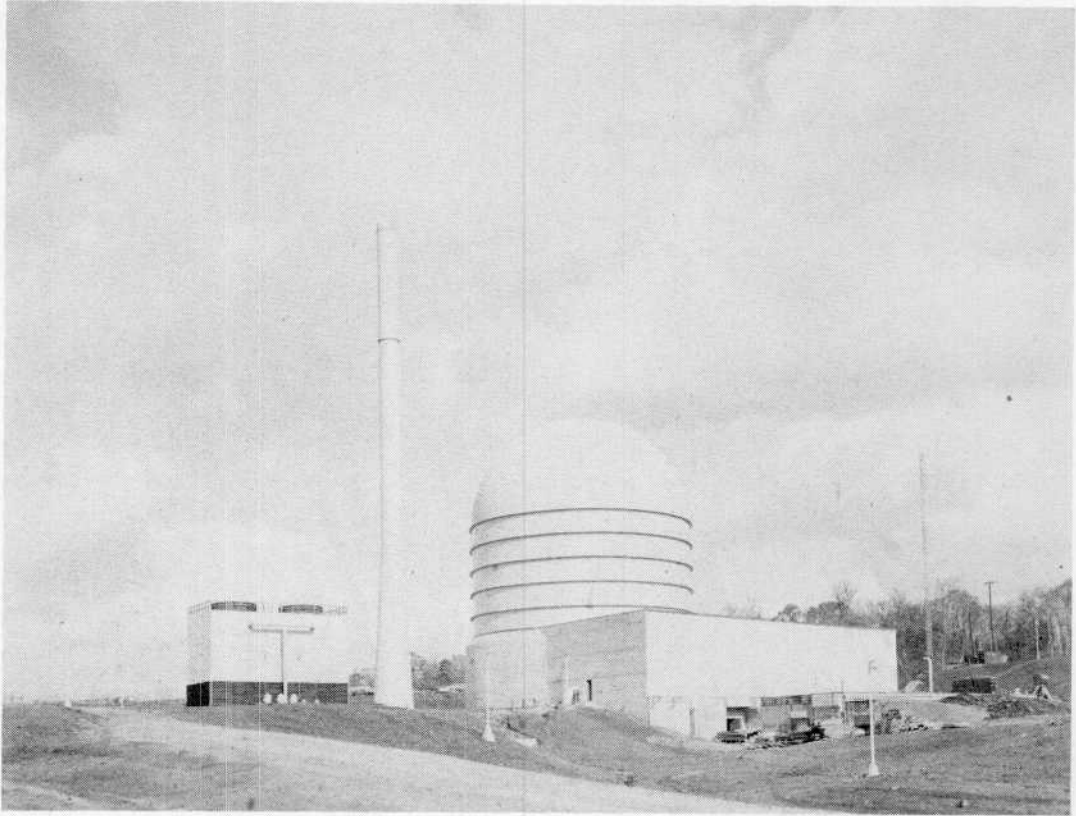
Confidence Course at Fort Campbell



Barracks Buildings at Fort Campbell



Hospital at Wright-Patterson Air Force Base



Nuclear Test Facility at Wright-Patterson Air Force Base

that at Camp Atterbury: "Work in place was well performed and materials being used were in compliance with contract requirements. Buildings and other structures showed evidence of careful inspection."²⁵

Construction performed after the completion of basic facilities at Camp Atterbury in 1942 consisted of such subprojects as the construction of an airfield, a practice bombing and gunnery range, and conversion of the camp hospital in 1945 to a general hospital (Wakeman Convalescent Hospital), involving the building of classrooms, housing, and laboratory facilities for medical staff and recreation facilities for patients. District projects at Camp Breckinridge and other troop-training cantonments were quite similar to those at Atterbury.²⁶

Ordnance and Munitions Projects

The troops had to be furnished with the proper arms and ammunition for the tasks ahead of them; and the Corps constructed scores of ordnance and munitions installations across the nation. During the early buildup for the invasions in Europe and the landings on Pacific Islands, ordnance and munitions plants were constructed on a "crash" basis. Work on this sort of project tapered off in 1943 and 1944, and then, because ammunition requirements had been under-estimated, a renewed munitions plant construction program, described as "critical," was instituted in 1945. Even a mere listing of this type project completed in the Louisville District is quite lengthy: Ohio River Ordnance Works at Henderson, Kentucky; Hoosier Ordnance and Indiana Ordnance at Charlestown, Indiana; Evansville Ordnance Plant at Evansville, Indiana; Blue Grass Ordnance Depot at

Richmond, Kentucky; Falls Creek Ordnance Plant at Indianapolis; Vigo Ordnance Plant and Terre Haute Ordnance Depot at Terre Haute, Indiana; and Kingsbury Ordnance Plant near LaPorte, Indiana. The Engineers also constructed many related projects, such as a building for expansion of facilities at Warner Gear Division of Borg-Warner Corporation at Muncie, Indiana, and ordnance-testing facilities at Jefferson Proving Ground, Madison, Indiana. A description of a few of these ordnance installations will indicate their general character and scope.

The Ohio River Ordnance Works project involved the design, engineering, construction, and preparation for operation of a plant for the manufacture of anhydrous ammonia on an 882-acre site three miles west of Henderson, Kentucky. Construction commenced on April 22, 1941, and was completed two weeks ahead of schedule on September 30, 1942. There were no fatal accidents during construction; and in spite of inflationary rises in materials costs, the added costs of increased security after declaration of war, and a vastly increased amount of overtime due to speedup, the project was completed within original cost estimates. Buildings at the project were of temporary (five-year life) construction; they housed one production line for manufacturing liquid anhydrous ammonia with a rated capacity of 150 tons per day.²⁷

Indiana and Hoosier Ordnance plants at Charlestown, Indiana, were located within two miles of each other. Indiana Ordnance plant was a \$75,000,000 smokeless powder plant constructed in 1941 and put into operation in early 1942 by the E. I. du Pont de Nemours Company. Six production lines, each with a 100,000-pound daily capacity, gave some

credence to the claim that it was the largest powder producing plant in the world. The Louisville District built a number of structures at Indiana Ordnance; for example, in 1945, with the services of a thousand prisoners of war because of a labor shortage, the District supervised construction of a plant to produce rocket powder. Hoosier Ordnance Plant, originally designed for loading artillery powder charges, was also completed in early 1942.²⁸

The Evansville Ordnance project consisted of renovation of a Chrysler Corporation plant and construction of additional facilities for the production of .45 caliber ammunition. Vigo Ordnance near Terre Haute was built in 1942 to furnish shell detonators and primers. And Fall Creek Ordnance at Indianapolis was designed for the manufacture and processing of armor plate.²⁹

Jefferson Proving Ground, constructed near Madison, Indiana, was built for acceptance testing of ammunition, bomb components, and pyrotechnics — meaning the actual firing of samples to determine ballistics, functioning, and storage-handling characteristics before issuance to troops. The Quartermaster Corps let contracts for the project in September, 1941, and the Corps of Engineers initiated construction on December 19, though official notice to proceed was not given until a week later. The change of command was handled quite simply at the project: the Constructing Quartermaster was appointed Area Engineer on December 16 and reported thereafter to the District Engineer. Problems experienced at the project included the usual difficulty in employing labor, piecemeal construction, and such unforeseen contingencies as the rise in female personnel employment, which required design

changes to provide additional lavatories and other facilities.³⁰

Hospital Projects

Hospital and related medical facility construction was also an important part of the military program, for troop cantonments required camp hospitals, and general hospitals were required to serve the sick and wounded soldiers. The largest projects in the Louisville District in this category were Billings General Hospital at Fort Benjamin Harrison near Indianapolis, Darnall General Hospital at Danville, Kentucky, and Nichols General Hospital at Louisville. Construction began at Billings General Hospital in 1941; it opened for occupancy on June 30, 1942, though it was not actually completed until November 1. Billings Hospital involved construction of a 1060-bed hospital, a medical technicians' school, and a field hospital unit in about seventy frame buildings with asbestos shingle siding and light, roll-felt roofs.³¹

Darnall General Hospital at Danville was leased from the Commonwealth of Kentucky for conversion to a military hospital in June, 1942; and the Engineers constructed adjacent facilities for mental patients. Nichols General Hospital was a mobilization-type project (five-year life buildings) constructed by the District just south of Louisville. Work commenced on June 1, 1942, at Nichols Hospital on a thousand-bed facility and field hospital unit; the project was completed on schedule on November 15, 1942. In 1968, some of the structures built in 1942, designed for five-year service, were still in use.³²

Demobilization

The military construction program in the Louisville District, except for a few

urgent projects at munitions plants, tapered off in 1944 and 1945, as the scope of the Army Engineers' mission in overseas combat theaters increased. General Eugene Reybold, Chief of Engineers during the war, declared that by 1943 the Engineers "could move the Army and the Air Forces any damned place there were Germans and Japs left to destroy, whether it meant building a truck road around the Himalayan Hump, rebuilding the wrecked ports of Italy, or ferrying heavy tanks across a flooded river. We were the men who could do it because, by God, we were getting it done."³³

In 1944 the District centralized its military construction program to reduce administrative costs by dispensing with many of the Area Engineer offices at major projects and providing construction inspection through mobile teams dispatched from the District office in Louisville to projects in Kentucky and from an Area Engineer office at Columbus, Indiana, to projects in the Hoosier State. Office space had been at a premium in Louisville during mobilization and various sections of the District Office staff has been dispersed in buildings throughout the city. As the end of the war approached, these sections were gradually brought back together and moved into space vacated by the Air Force and other agencies in the Gibbs-Inman Building.³⁴

Through mobilization of the decentralized District and Division organizations, which were in close contact at the local level with engineering and construction firms and were fully cognizant of locally available materials and construction equipment, the Corps of Engineers was able to mount an emergency construction push to complete two and a half billion dollars worth of military facilities in 1942, reaching a peak rate of

\$720,000,000 per month by mid-1942. By the end of the war, construction worth eleven billion dollars had been completed by the Corps in the continental United States. Military supply procurement was also accomplished by the Engineers at a rate of about two billion dollars per year. Corps records show that 5,300 engineering and construction firms participated in the military construction program, while Engineer troop strength reached three-quarters of a million men.³⁵

Led by hard-charging District Engineers — Colonels Henry Hutchings, Jr., Henry F. Hannis, Jesse H. Veal, and Gilbert Van B. Wilkes — the Louisville District operated in near emergency status during the war, commencing and rapidly completing immense projects under directives which called for completion within thirty, sixty, or ninety days. The District was faced with concurrent shortages of labor, construction equipment, and high-priority materials, but it persevered, utilizing alternative resources, employing large numbers of women to alleviate the manpower shortage, and resorting even to the use of prisoners-of-war as a labor force. The District accomplished the largest construction program in its history and met, almost without exception, the goals assigned at each project.

Perhaps one incident best illustrates the ruthless pressures under which the District staff operated during the Second World War. On a Friday before Labor Day, the Louisville District was advised that German prisoners would arrive at Austin and Rochester, Indiana, at 8:00 a.m. on the Tuesday after Labor Day. The District was instructed to have two internment camps complete and ready for occupancy by the time the prisoners ar-

rived. Each camp required tent platforms, mess halls, double fence stockades, water supply, and sewerage facilities. Over that long Labor Day weekend the District staff worked day and night. Pipe and barbed wire were at a premium, but the District maintained a complete listing of surplus materials from completed projects and assembled the necessary items from stores on hand. The internment camps were thrown up within a seventy-two hour period and were ready for occupancy when the prisoners arrived.³⁶

Emergency construction directives and mandatory orders for swift completion of projects to a usable state forced hasty and impermanent construction at many military projects. But swift completion and serviceability in time of national emergency were just as important as economy and durability on peacetime civil works projects. Under the conditions described above, many expedients were adopted which would not have passed the strict rules of accountability applicable to normal civil works activities. The position taken by the District Engineers and field engineers during the emergency was that the jobs should be completed first; paper work could be argued about later. Disbursements were made without much question for many unusual items such as "removing jerk from government car," a circus tent for temporary office space, and, in the face of gasoline and tire rationing, mules complete with harness and riding horses with saddles.

When the Office of the Comptroller General investigated fiscal matters in the Louisville Engineer District in 1944, the Secretary of War intervened. The Secretary commented;

An investigation of the matter emphasizes the

difficult situation created during the early part of the War when, by act of Congress, the great volume of construction work of the Army was transferred from the Quartermaster General to the Chief of Engineers, and when speed was mandatory. Reports of the officers on the job greatly stress the tremendous increase of duties thrown upon the employees available at a time when such personnel was subject to inductions into the service, enlistments, transfers to more remunerative positions, and the many other processes which rapidly depleted the forces in the field of their best men. There is also to be considered the proposition that a review, after the fact, of the activities and procedures directed under such extreme pressures will, without much difficulty, disclose many mistakes.³⁷

District Military Mission, 1945-1950

At the end of the Second World War, the civil works program of the District rapidly resumed its prewar pace. Expenditures in the District for military construction, which had reached a high of a million dollars per day in 1942, amounted to less than half a million dollars in 1946. In 1947 the Cincinnati Engineer District was phased out, and the Louisville District assumed military construction contracts previously administered by the Cincinnati District amounting to about nine million dollars. And in 1948 the District was assigned responsibility for design and construction of Veterans' Administration hospitals estimated to cost about eighteen million dollars each. Real estate functions, involving land acquisition and disposal, had been centralized at Ohio River Division during the war. In 1947 a Real Estate office was re-established at Louisville District, with responsibility for District civil works, the entire Ohio River Division military construction program and for the Atomic Energy Commission (A.E.C.) in the Lower Ohio Basin.³⁸

The military mission of the District was described as "routine" from 1945 to 1950.

The principal activities included additional airstrips and some esoteric aerodynamic testing structures at Wright-Patterson Air Force Base, airstrips at Fort Campbell, Kentucky, a fume-elimination project at Morgantown Ordnance Works in West Virginia, and minor projects — armories and storage buildings — for National Guard units.³⁹

*Korean "Police Action" Construction,
1951-1953*

When the Cold War waxed hot in Korea in 1950, the Corps of Engineers commenced a "crash" program to meet the requirements of the American forces engaged in that "police action." Major rehabilitation programs, or "retreading" as the expression went, were instituted at Indiana and Hoosier Ordnance plants at Charlestown and Jefferson Proving Grounds at Madison, Indiana. Other projects included warehouses at Lexington, Kentucky, Signal Depot; a parachute-repair shop and a box-crate shop at Jeffersonville Quartermaster Depot; magazines and other facilities at Blue Grass Ordnance Depot; and about fifty million dollars worth of barracks and other housing at Fort Knox and Fort Campbell. By 1953 the monthly expenditures of the Louisville District had risen to over seven million dollars. During the Korean incident a Supply and Procurement Division was also organized in Louisville District, with 256 employees at the peak in 1952, to purchase supplies for the troops in Korea.⁴⁰

District Military Mission, 1953-1970

After the truce was signed in Korea in 1953, the Louisville District military mission again began to taper. The District was assigned a real estate mission for the National Aeronautics and Space Ad-

ministration (NASA) in 1958, and in the same year directed construction of Strategic Air Command (SAC) facilities at Wright-Patterson Air Force Base. The work at Wright-Patterson required the design and construction of some unique structures never before built, and was to be a continuing mission of the District throughout the 1960s. Projects included the installation of a nuclear reactor to subject materials to radiation testing; the construction of an optical facility for equipment which included a 100-inch mirror — second largest in the United States at one time; and a sonic-fatigue testing facility. The latter project was designed to house large numbers of sirens developing up to a million watts of sonic power; sirens were used to create a vibration capable of shattering the material being tested. The District had to design and construct a structure which would not itself be destroyed by the tests.⁴¹

President John F. Kennedy in 1961 called for rapid implementation of a Civil Defense and National Fallout Shelter Program. The Corps of Engineers was assigned a major role in this program because of its experience in handling disaster situations, its engineering expertise, and its close contact with local authorities through its decentralized organization. The Louisville District participated in an urgent program to locate, mark, and stock structures suitable for service as fallout shelters — over a hundred million fallout shelter spaces were established across the nation. The District also prepared, for its assigned region, contingency plans for post-attack recovery, including provisions for repair of transportation facilities and public utilities, rescue operations, debris clearance, damage assessment, radiation detection and decontamination, mass burials, and other emergency functions. The

full value and effectiveness of this contingency-type program can not be calculated in advance of need, and it is one project which personnel of the Corps sincerely hope will never be tested by actual use; however, the loss of public interest in the program does not detract from its potential value.⁴²

As an economy measure, twelve Engineer Districts in the United States were relieved of military construction and real estate functions in 1961; and during this reorganization the Louisville District was again assigned the duty of performing these functions for the Ohio River Division. But the scope of the District military mission dwindled during the 1960s — from sixty-nine project work-sites in 1961 to thirty-one in 1965. The war in Viet Nam had little effect on the District military mission. There were a few rush projects for the construction of additional facilities at Fort Campbell and Fort Knox, but there was no crash construction program similar to those of the Second World War and the Korean War.⁴³

Partially as a result of this decrease in military construction volume in the Louisville District area of responsibility, the Office of the Chief of Engineers determined in 1970 that the mission could be accomplished at reduced administrative costs by further centralization of the program. Responsibility for military construction and military real estate functions in Ohio River Division was transferred from Louisville to the Omaha (Nebraska) and Baltimore (Maryland) Engineer Districts. As of July 1, 1970, the Omaha District became responsible for the Corps military mission in Illinois and Indiana, and the Baltimore District for Ohio, West Virginia, and Kentucky.⁴⁴

Summary

After performing a military mission for almost a third century, 1940-1970, except for continued Civil Defense support activities, the Louisville District became a strictly civil works organization on July 1, 1970. The military mission had a certain excitement about it not associated with civil works — the urgent crash construction programs of the early 1940s and 1950s, the esoteric engineering requirements and challenges of ordnance works, aircraft and aerospace facilities, and other military installations, and the immediate involvement in national defense efforts. Personnel of the Louisville District took great pride in its achievements while performing the military mission; and historical evidence indicates that this pride was probably justified.

Assessing the total value of the work completed by the District as part of its military mission — its contributions to the success of American armies in the field; the amount by which its work increased the security of the citizens of the United States — is difficult, if not impossible. Perhaps the same assignments could have been accomplished equally as well by another similar agency. On the other hand, there was no similar agency. Certainly there can be no doubt that the experience gained by District personnel in performing large civil works construction in peacetime had significant value when rapid large-scale mobilization construction for military purposes became necessary in a national emergency. And, over a long time-span, the civil works program itself was a major military mission, for it was designed to increase national prosperity and enhance the economic well-being of Americans — elements absolutely essential to effective national defense.